

City of Pikeville, Kentucky Speculative Building: Economic development and engineering challenges encountered when using reclaimed surface mining sites.

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Abstract:

The City of Pikeville, Kentucky is in the process of building a speculative (spec) building on a reclaimed surface mining site owned by the city. The purpose of this building is to attract a manufacturing tenant for economic development within the city and nearby communities.

In order to maximize the opportunity for attracting a tenant, the building must be designed to ensure that it can readily accommodate as many different industrial processes as possible. In a number of areas, this means leaving room for flexibility is a must. Some factors to be considered include physical dimensions and load requirements of the building; having various utilities on site, but not in the building; whether to install a concrete pad; site layout; etc.

In addition, there are many engineering considerations involved when building on reclaimed surface mining sites. Among these are required road improvements, other access issues, and utility construction and supply.

With this site, however, the primary concern is preventing settlement at building site. The surface mining process has resulted a subsurface at the site made up of fill material that is heterogenous and irregular mixture of rock and sand of varying sizes with depths approaching one hundred feet. This material will settle unpredictably over time due to both the weight of the fill itself and to the migration of water through the material enlarging voids by dislocating finer particles. This requires mitigation under the building footprint itself and may present issues for utilities as well.